

## ABSTRACT

The present invention describes a generic methodology to formulate a composite solid useful for catalyzing variety of reactions, the present invention in particular relates to a heterogeneous catalyst as a formulation constituting a solid support having deposited thereon a catalytically active material, which is practically insoluble in variety of liquid media, the said insoluble material is constructed from secondary building blocks derived from suitable organometallic active components and the organometallic active component is molecularly modified so as to introduce two or more negatively charged functional groups, these molecularly modified organometallic components upon interaction with salts of  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$  and  $\text{Ba}^{2+}$ , provide practically insoluble solid material and the invention further ascertains various ways of formulating organometallic active material on a solid support as a solid catalyst, the methodology is suitable for preparation of wide variety of catalysts having applications in catalyzing diverse reactions in polar and nonpolar reaction media and the overall integrity of the formulation as a solid material in a liquid phase provides easy catalyst and product separation.